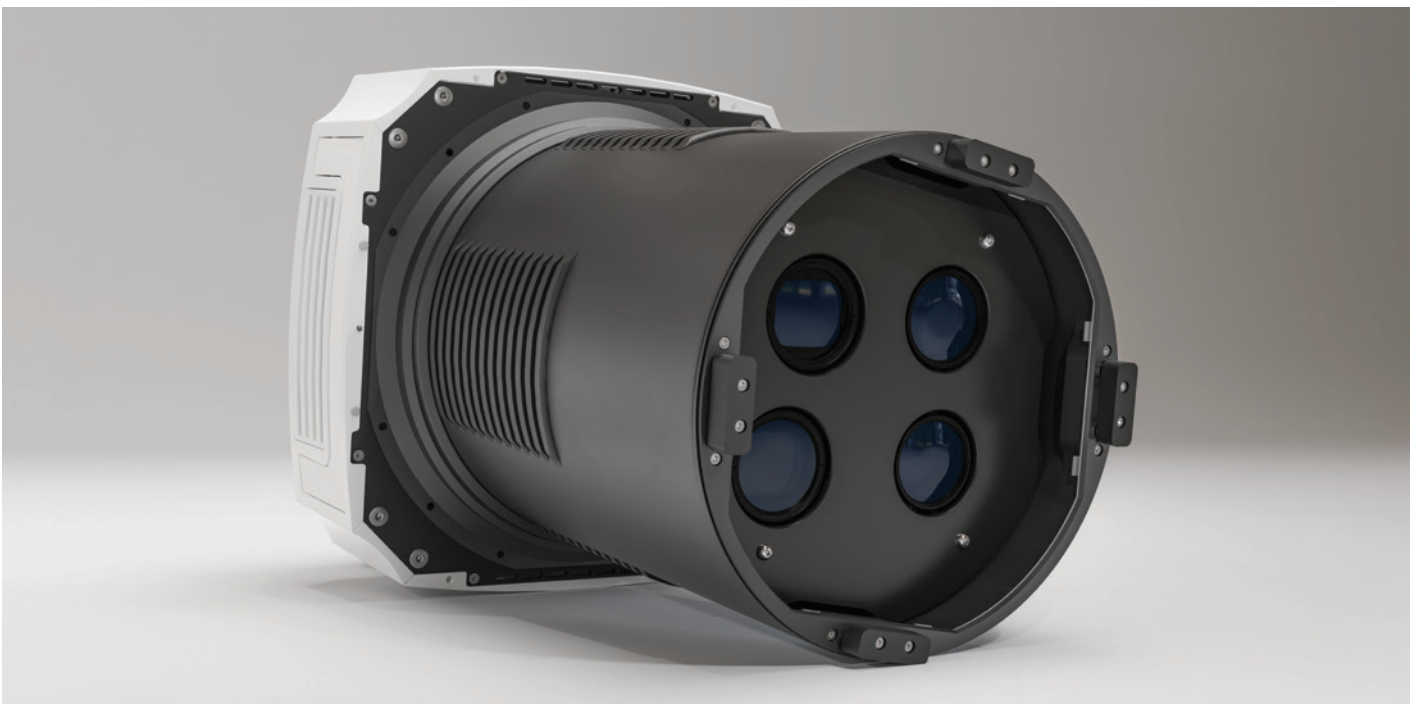


ULTRACAM MERLIN 4.1 **3020**

Your solution to profitability and business growth



The UltraCam Merlin 4.1 3020 is designed for efficient data capture of large-scale projects, offering high collection efficiency and cost-effectiveness at fundamental-line quality and precision. The system maximizes the collection window and drives down project expenses through high dynamic range, fast frame rate and in-flight

quality control. With its industry-leading geometry and a sophisticated image processing chain, the Merlin 3020 raises the bar for excellence for systems in its class and offers a high return on investment, given full upgrade capability to the UltraCam Premium line.



SPECIFICATIONS & DETAILS

ULTRACAM MERLIN 4.1

3020

True nadir RGB sensor, portrait oriented
3 x 150 megapixels

True nadir NIR sensor, landscape oriented
2 x 150 megapixels

SENSOR SYSTEM

Imaging sensor physical pixel size	CMOS 3.76 µm
Shutter (longlife central leaf)	Prontor magnetic-0 HS2; field exchangeable
Color capability (multi-spectral)	4 channels – RGB Bayer pattern & NIR
Color (RGB Bayer pattern) image size	31,300 x 14,016 pixels
Color (NIR) image size	20,867 x 9,344 pixels
Ratio RGB to NIR	1 : 1.5
Spectral bands (FWHM ¹)	R (580–690 nm) G (480–600 nm) B (420–510 nm) NIR (690–880 nm)

1 frame per 0.7 seconds

Adaptive Motion Compensation

>83 dB at base ISO

14 bits at 4 bands

True Pixel Processing

CAMERA SPECIFICATIONS



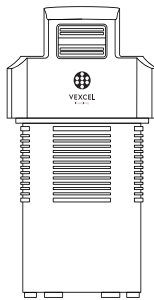
Height
76 cm



Cylinder diameter
32.5 cm



Power consumption
330 W (average)
350 W (peak)



Width
42 cm



Weight
46 kg



Operator display
Vexcel IPT – Interface Panel Touch (2 kg)

LENS SYSTEM



Color (RGB Bayer pattern) lens system focal length	120 mm
Color (RGB Bayer pattern) lens aperture	f=1/5.6
Color (NIR) lens system focal length	80 mm
Color (NIR) lens aperture	f=1/4.3
Total field of view, across track along track	52.2° 24.8°
Footprint for lean restriction of 1 m lean @ 5 m height (across x along)	12,765 x 12,765 pixels



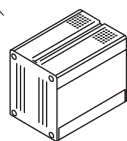
Sample flying heights
3,192 m @ 10 cm GSD
1,596 m @ 5 cm GSD

DATA STORAGE

Type
NVMe solid state disk pack (SSD)

Storage capacity
16 TB (4x 4 TB)
32 TB (4x 8 TB)

Size of one raw image (without optional redundancy)
1,798 MB (1,284 MB)



Features
In-flight exchangeable
Optional redundancy

Number of raw images² (without optional redundancy)
16 TB: up to 8,130 (11,380)
32 TB: up to 16,960 (23,730)

Weight of data unit
1 kg

OPERATIONAL SPECIFICATIONS



FLIGHT ALTITUDE
≤7,000 m
above sea level



HUMIDITY
5% to 95%
non-condensing



TEMPERATURE
0 °C to 45 °C
-20 °C to +45 °C³ (operation)
-20 °C to +65 °C (storage)



MOUNTING
UltraMount and most current third party mounts⁴



GNSS/INS/FMS
UltraNav and most current third party systems⁴



INSTALLATION
(Camera, UltraNav & UltraMount)
≤89 kg
480 W (average)
560 W (peak)



DATA PROCESSING
UltraMap processing suite including data export in standard formats



¹ Full Width at Half Maximum.

² Due to configuration and change in SSD technology, usable storage size may vary and can not be guaranteed.

³ Camera cylinder exposed to outside airflow only.

⁴ Please contact our sales team for detailed information.

Technical changes, printing errors and amendments reserved.